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ABSTRACT

An evaluation was done of the Queens Tri-School Confederation, three high schools in the New York City Public Schools funded by a federal grant from the Magnet Schools Assistance Program. The grant provided Hillcrest, Jamaica, and Thomas A. Edison High Schools with funds to develop or expand emergency technician programs at Hillcrest; a law program at Jamaica; and medical/pharmaceutical and emergency medical vehicle maintenance programs at Edison. The programs were implemented in the 1991-92 year and include new courses, particularly laboratory courses with corresponding written curricula that emphasized higher-level thinking skills. Efforts were made to recruit students, particularly from among white populations. This resulted in an increase of about three percent in incoming ninth grade non-minority populations at Hillcrest and Edison. Jamaica still showed a downward trend. Programs to reduce minority group isolation included a multicultural club, peer mediation, a program to train student leaders in inter-ethnic relations, and increased community service. Test scores and attendance improved at all schools. Student ratings of program aspects were disappointing and atmosphere and safety were areas of concern. Twelve tables are included. (JB)

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OREA Report

Queens Tri-School Confederation
1991-92 Evaluation Report

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Queens Tri-School Confederation
1991-92 Evaluation Report

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EXECUTIVE SUMMARY

The Queens Tri-School Confederation, made up of Hillcrest, Jamaica, and Thomas A. Edison High Schools, was funded in 1991 by a federal grant from the Magnet Schools Assistance Program. The grant provided funds to the schools to develop or expand five magnet programs: a law program at Jamaica; pre-medical, and emergency technician programs at Hillcrest; and medical/ pharmaceutical, and emergency medical vehicle maintenance programs at Edison. Also, because the schools were within five blocks of one another, the Tri-School Confederation planned to share resources and expertise by offering courses at each school to students registered in any one of the three schools.

Magnet, or educational-option programs, have successfully increased the motivation and achievement of students by relating school curriculum and activities to students' interests and career goals. Improved student achievement has enhanced the reputation of schools with specialized programs. Consequently, these public schools have attracted a non-minority population, and have begun to reduce minority group isolation.

The program was off to a late start because of a prolonged grant approval process, and the need to hire a qualified program director. Nonetheless, the Queens Tri-School Confederation magnet programs were implemented in the 1991-92 school year and included new courses, particularly lab courses with corresponding written curriculum, that emphasized higher-level thinking skills. The much anticipated new laboratories (DNA, forensic, and reading and writing labs) were not completed on time for the fall term. However, whenever possible classes were held in chemistry or other laboratories.

Efforts were made to recruit students, particularly from among white populations. For example, Tri-School students and staff visited predominately white areas to publicize the magnet programs. This resulted in an increase of about three percent in incoming ninth grade non-minority populations at Hillcrest and Edison High Schools. Jamaica High School still showed a downward trend in non-minority populations. However, this trend is expected to reverse itself once Jamaica's law educational-option program is in place, and the school begins recruiting outside its zone. In addition, a student attitudinal survey administered to a sample of current Jamaica students revealed a high interest in the law program.

The schools implemented several other programs to reduce minority group isolation. These included a multicultural club, peer mediation, a program in which student leaders were trained in inter-ethnic relations, and increased community service.

A major component of the Tri-School concept was an expansion of course offerings through shared resources. This was achieved by integrating courses. For example, Jamaica offered a medical

ethics course, and Edison had a pharmaceutical course which was of interest to medical students at Hillcrest. Hillcrest offered a first responder course which was of interest to students in Edison's emergency vehicle maintenance program. Also, the P.M. schools offered several courses not normally available to students. An interschool library link-up expanded the opportunities even further, as did shared activities and facilities.

However, as might be expected from a program in operation for less than a year, these efforts met with mixed results. Academically, students in all three schools improved their Regents Competency Test (R.C.T.) passing rates in math and science, and thus met the program's objective in this area. Students did not, however, do well in reading and writing. In fact, when student attitudes were polled on different aspects of their programs, "opportunity to improve writing skills" was criticized across the board.

Attendance rates at both Edison and Hillcrest improved from the year before, and, therefore, met the attendance objective. While the attendance rate at Jamaica decreased, its average daily attendance was, like the other two schools, higher than the overall rate for Queens' schools.

Student ratings of various program aspects were, for the most part, disappointing, although this varied somewhat by school. It is quite likely that these ratings reflected heightened expectations followed by disappointment. Generally, students rated "student activities offered" highest, and "opportunity for individual instruction" lowest in all three schools. School atmosphere and safety were also areas of great concern to students, particularly at Hillcrest and Edison High Schools. Overall, however, the majority of students would recommend their schools to other students.

Based on the findings of this evaluation, OREA makes the following recommendations to program planners:

- continue and intensify efforts, using students and site visits to show off the new programs and facilities, to recruit more non-minority students for all programs;

- focus more attention on student' reading and writing opportunities in order to improve these skills and to encourage higher levels of thinking and expression;

- consider intensifying efforts to give students more individual instruction time, perhaps through peer tutoring or mentoring programs;

- develop more ways students, especially in the lower grades, can take courses in their program of interest. This might include mixed courses (such as literature and law,) more interschool offerings, more P.M. courses, and a transportation system between schools; and

- begin development of a mechanism such as a governing committee or permanent program director to ensure continuance and growth of the Tri-School concept of shared resources.

ACKNOWLEDGEMENTS

This report was prepared by the Office of Research, Evaluation, and Assessment's High School Evaluation Unit (OREA/H.S.E.U.) under the direction of Dr. Lori Mei. Special thanks to Susan Hannah for coordinating the overall evaluation, analyzing and interpreting the data, and writing the initial draft, and to Barbara Dworkowitz for writing and editing the final report.

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I. INTRODUCTION

PROGRAM BACKGROUND AND PURPOSE

In New York City minority group isolation has come almost full circle since Brown vs. Board of Education (Topeka, Kansas), the 1964 Supreme Court decision obligating public schools to integrate. In 1990, for example, ethnic data for the New York City's public high schools revealed that, on average, there was fewer than one white student (19 percent) for every five minority students (81 percent) enrolled in the high schools. In some schools, such as Hillcrest and Jamaica High Schools in Queens, the ratio was closer to one white student for every ten or 15 minority students. These numbers are even more striking considering that Hillcrest and Jamaica are zoned schools located in a neighborhood where 60 percent of the residents are white. In fact, more than two-thirds of the white high school students in New York City have opted out of the public school system to attend private, parochial, or specialized schools. And while the total number of white students enrolled in the high schools has decreased, the total number of black, hispanic, and asian students has increased.

Educational option or "magnet" programs, have helped to reverse this trend toward "white flight" from New York City's public schools. These theme-oriented programs increase the motivation and achievement of students by relating school curriculum and activities to student interests and career goals. Better student achievement in turn improves the reputation of these schools. Consequently, more white students in the public

these schools. Consequently, more white students in the public school system stay for high school-level education, while some white students who have left the system are being drawn back.

The Magnet Schools Assistance Program (M.S.A.P.), a federal grant program authorized by Title III of the Elementary and Secondary Education Act of 1965, provides funds for instruction and educational programs in schools with sizeable minority populations. The goals of the program are to improve students' academic knowledge and marketable vocational skills, entice non-minorities to voluntarily return to the public schools, and achieve racial balance within the schools.

In 1991, the program was awarded a $2.2 million dollar federal Magnet School grant (renewable for a second year) to three Queens high schools--Hillcrest, Jamaica, and Thomas A. Edison--which had united to form a cooperative organization called the Queens Tri-School Confederation. Cooperation among schools was envisioned as a way to expand and improve the services and instruction in all three schools. The geographic arrangement of the schools-- five blocks apart from one another--enabled the schools to share resources and students and to develop or expand five magnet programs: a law program at Jamaica, pre-medical and emergency technician programs at Hillcrest, and pharmaceutical and emergency vehicle maintenance programs at Edison.

PROGRAM OBJECTIVES

Program planners formulated the following evaluation objectives for the two-year program. This report summarizes data from the first year (1991-92) of the program. The objectives were to:

- establish the Queens Tri-School Confederation consisting of the Hillcrest High School Pre-Medical and Emergency Medical Technology Programs, the Jamaica High School Law Academy, and the Thomas A. Edison Pharmacy and Emergency Vehicle Maintenance Programs;

- reduce minority group isolation in the Tri-School Confederation high schools by five percent by June 1992 as compared to June 1991 (baseline data), and by an additional three percent in June 1993 (eight percent total for the two-year grant period);

- provide special curriculum, courses, teaching methodology and counseling strategies to support reduction of minority group isolation in buildings and in classrooms of the new magnet high schools;

- offer high quality, unique courses of instruction in a Law Magnet Program at Jamaica High School, Pre-Medical and Emergency Medical Technology Magnet Programs at Hillcrest High School, and Pharmaceutical and Emergency Medical Vehicle Maintenance Magnet Program at Thomas A. Edison High School;

- demonstrate at the end of each grant year (June 1992 and June 1993) an improvement in student academic skills as measured by a higher passing rate on New York State Regents exams and Regents Competency Tests as compared with baseline data for June 1991;

- provide opportunities for students from each of the special programs to interact with each other through an expansion of programmatic offerings and shared programs;

- improve student motivation to attend school as measured by an average daily attendance higher than the previous year at the end of each year (June 1992 and June 1993);

- increase student, teacher and parent satisfaction with the high school program as measured by a questionnaire to be administered at the beginning and end of each school year, 1991-92 and 1992-93;*

- improve higher-level thinking skills on the part of students in the program as measured by pre and post-test evaluations in September 1991/June 1992 and September 1992/June 1993;**

- increase by three percent each year the number of students entering post-high school programs related to magnet program thematic areas.***

EVALUATION METHODOLOGY

The Office of Research, Evaluation, and Assessment (OREA) conducted the evaluation of the magnet program. Evaluators obtained ethnicity, attendance, and test data from central files and compared them for the baseline (1990-91) and program years (1991-92.) Test scores included in the analyses were the Degrees of Reading Power Test (D.R.P.) for ninth and tenth graders; Regents Competency Tests (R.C.T.s) in reading and writing for eleventh and twelfth graders, and math and science for ninth

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*Evaluations of parents' and teachers' satisfaction with the high school program were eliminated for budgetary reasons.

**A direct assessment of students' higher-level thinking skills was not carried out for budgetary reasons, and because adequate instruments to test these learning and thinking skills have not been developed beyond such "indicators" as intelligence tests and Scholastic Achievement Test (SAT) scores. It is expected, however, that demonstration of these skills due to changes in instruction will be reflected in improved reading comprehension, general grade averages, essay writing, and laboratory performance.

***Post-high school program data are not presented in this report because data for students entering high school in September 1991 and September 1992 will be unavailable until 1995 and 1996. The project director and the schools' principals and guidance supervisors have begun developing a system to longitudinally track these students.

through twelfth graders; and Regents exams in biology and Sequential Mathematics I for ninth through twelfth graders.

Evaluators also interviewed the project director and the three high school principals to obtain information on the programmatic features and offerings in each school. These data were augmented by responses to a questionnaire given to a modified random sampling of five to ten percent of students in grades nine through twelve concerning their usage of various program features. This same questionnaire also served as the instrument to determine the level of students' satisfaction with their high schools and high school programs.

SCOPE OF THIS REPORT

Chapter II of this report describes the specific magnet programs at Jamaica, Hillcrest, and Edison High Schools. Chapter III discusses program implementation and promotion both within and outside the schools. Chapter IV outlines student attitudes on individual aspects of the program. Chapter V compares student data on ethnicity, test scores, and attendance between 1990-91 (baseline) and 1991-92 (the first year of the magnet program) to determine program impact in these areas. Finally, Chapter VI presents conclusions and recommendations.

II. DESCRIPTION OF MAGNET PROGRAMS

During 1990-91, the year before program implementation, all three schools in the Queens Tri-School Confederation were filled to over 100 percent capacity. Jamaica High School, a neighborhood zoned school, served 2,542 students, 92.8 percent of whom were from minority families. Hillcrest, another zoned school, had 3,282 students with a minority population of 85.4 percent. Thomas A. Edison High School, an unzoned vocational-technical school served 1,928 students from all parts of the city, and had a somewhat smaller minority population of 80.2 percent. However, individually and collectively, the three schools had a higher minority group population than the average for all other public high schools (73.6 percent) and elementary and middle schools (71.6 percent) in the borough of Queens.

Beginning in September 1991, the Tri-School Confederation initiated magnet programs in all three schools for students in grades nine through twelve. However, because of a prolonged grant approval process, and the need to hire a qualified project director, there was little time for staff training, student recruitment, or purchasing of lab equipment.

JAMAICA HIGH SCHOOL MAGNET PROGRAMS

Program Background

Prior to the 1991-92 school year, Jamaica's law program included courses in typing and stenography, a social studies course in global law, and an English course on law and literature. Legal and police internships were available to about

30 students in the law program. (Only one other high school offered this hands-on experience.) Students entering the law program were generally eleventh grade students chosen from the existing student body. In addition, Jamaica was a member of the "law cluster," a group of high schools with law-related programs that met regularly to share resources and educational materials.

However, by expanding the existing program to offer a unique magnet program of law and other justice-related fields, Jamaica High School hoped to attract a wider variety of students. As an educational-option program, ninth and tenth grade students throughout the city could apply to the law program directly*. In September 1992 the law program was approved as an educational-option, strengthening the school's efforts to attract more white students and reduce minority group isolation.

Program Design

With the assistance of the magnet school grant, new courses and curricula, stressing higher level cognitive skills were added. These included courses in civil law, criminal law, street law, legal research, and forensic science. In addition, a new ethics curriculum was planned for the spring 1993 term.

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*Students must apply for acceptance into an educational-option school or program. Those students who score within the top two percent on a standardized reading test taken the term prior to applying are automatically accepted into the educational-option program if it is listed as their first choice. Each entering class is comprised of 16 percent of students reading above grade level, 68 percent reading within an average range, and 16 percent reading below average. One half of the students applying are selected at random by computer, while the other half are selected by the school.

The inclusion of the one-year forensic science course with a laboratory** for fingerprinting, blood and human tissue comparisons, and chemical analysis of solutions allowed students the opportunity to meet a science requirement within their thematic area of interest. Students were taught the scientific principles of chemistry in the lab, and the importance of laboratory discoveries as used in the courtroom.

Experiential program offerings included the opportunity to participate in moot court and mock trials in Jamaica's new model courtroom. Through the new computerized library, students had access to an extensive law reference book collection which is still growing. Outside the school, students and faculty participated in a symposium at St. John's University Law School. A growing legal internship program in which students work for Queen's judges and clerks gave the students invaluable insights into the workings of the judicial system, as well as references for future work. An ongoing police internship program was also offered.

Expository and technical writing and composition were emphasized in the curriculum. The focus was on students gaining marketable skills for entry-level positions in law-related fields. A reading and writing laboratory with computers was planned for student use but was not yet operational during 1991-92 school year. Instead, students used other resources to

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**As of November 1992, the forensic science lab was incomplete. Lab work for the course was performed in the chemistry lab.

work on these skills.

Computer literacy was planned as an integral part of the legal writing program at Jamaica. Although not available during the first year of the program, new word processing equipment and software will be available during the 1992-93 school year to each of the 30 students in a class. Once the computers are in place, entering ninth and tenth graders in the law program will be required to learn basic keyboarding and word processing. Eleventh and twelfth graders will be expected to use the lab for more advanced writing projects, such as legal briefs, trial summaries, and judicial opinions.

Computers in the writing laboratory will also be networked to the law and main libraries. Additional computers in some English and social studies classrooms will augment the writing program. For example, the English department's law and literature course will teach computer and writing skills and law-related principles through literature, and the social studies department will use the computer to teach its global law course.

To allow more accessibility to high interest law courses for students from Hillcrest and Edison, Jamaica offered these students courses in street law and criminal law as part of their P.M. school*. In addition to these courses, a newly developed course in medical ethics will be added to Jamaica's P.M. school curriculum during the 1992-93 school year.

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*A P.M. school offers courses to students after regular school hours.

HILLCREST HIGH SCHOOL MAGNET PROGRAMS

Program Background

Students throughout the city compete for admission to Hillcrest High School's educational option pre-medicine program. It is but one program among many health career programs offered at Hillcrest. Others include practical nursing, emergency response, and medical and dental office assisting.

The four-year pre-medicine program is a rigorous academic program offering advanced courses in human biology. Qualified students can attend medical school classes at New York University (N.Y.U.) after classes end at Hillcrest. Research internships in laboratories at N.Y.U., City College of the City University of New York (CUNY), Mt. Sinai, York College, and other medical and educational institutions have also been an integral and highly successful part of the program.

Program Design

The magnet programs in health careers included an upgraded pre-medicine program and a newly developed emergency medical technician program. The main addition to the pre-medicine program was the introduction of a DNA* laboratory with machines for DNA analysis. The DNA lab was still incomplete as of November, 1992 but was expected to be fully operational for the spring 1993 term. However, the appropriate textbooks were in hand and a curriculum had been developed. Therefore, students

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*DNA is a nucleic acid that carries the genetic information in the cell.

were able to participate in research teams, or as individual investigators.

The emergency medical technology (E.M.T.) program was a hands-on approach to emergency medical training. Included in the program was a first responder course, with the opportunity for students to gain experience in the emergency rooms of local hospitals, and classroom demonstrations by licensed E.M.T. workers. A medical electronics lab, using the same equipment found in a well-equipped ambulance--electrocardiogram (EKG) machine, pulse eximeter and defibrillator--was installed for use in the spring 1992 term. Use of an ambulette van for training in transporting trauma victims was planned to complete students' hands-on experience.

THOMAS A. EDISON HIGH SCHOOL MAGNET PROGRAMS

Program Background

Thomas A. Edison, a vocational-technical high school, is open to residents throughout New York City. As part of the Tri-School Confederation program, existing programs at Edison in medical/pharmaceutical chemistry and the technology of emergency vehicle maintenance were expanded and integrated with Hillcrest's pre-medicine and E.M.T. programs.

Program Design

As with the other magnet programs, a key feature of Edison's pharmaceutical and emergency medical maintenance programs was the creation of "state of the art" labs. Extensive use of labs is expected to encourage a process-oriented, "learn by doing"

approach emphasizing higher-level thinking skills, and scientific reasoning over rote learning.

As of fall 1992, the lab was almost completed, with plumbing and gas lines already installed. The curriculum had been written and a certified pharmacist was on the staff to teach the courses. However, a modified pharmaceutical course had to be offered in 1991-92 while the lab was being finished.

As part of Edison's pharmaceutical program, lab experiences are essential in helping students understand the body's life process and the effects of drugs on the human body. Edison's college-level pharmacology program combines a chemistry and medical program. The program gives students the conceptual and technical knowledge to form experiments, make measurements, and record data relating to medical/pharmaceutical chemistry. In addition, an internship at one of the nearby hospitals to further strengthen the program is envisioned.

The emergency vehicle maintenance program was geared towards high technology problem solving. An engine laboratory augmented an existing three-year automotive trades program that included a complete auto service station, a chassis shop, and an auto electric shop. The hands-on training the students received allowed some students to take advantage of Edison's Training Opportunity Program (TOP), which provides students with paid internships. In addition, students will be trained to fix and maintain Hillcrest's ambulette.

The curriculum for the maintenance lab course was written and the program partially operational in the spring, 1992 term. Students were using the lab, even though it was only about 98 percent installed.

INTERSCHOOL ACTIVITIES

Courses

Schools in the Tri-School Confederation formed an integrated network to promote cooperation, not competition. Students were able to share courses and instructors, thus expanding their course options. The benefits were twofold: students could expand their programs by taking courses on other Tri-School campuses, and more courses could be offered to a larger pool of interested students.

For instance, during 1991-92 two Hillcrest students participated in the law magnet program at Jamaica: one took a course in criminal law, and the other participated in a legal internship. Also, 27 Edison students took a robotics class offered at Jamaica, while one took French. At the same time, ten Jamaica students enrolled in Hillcrest's first responder course.

Although the logistics for scheduling students for interschool classes during the normal school day was complicated, staff continued to work on expanding the program for the 1992-93 school year. Additional courses will be offered in the various magnet programs, as well as courses in Italian, woodworking, computers, electronics, and engine repairs.

P.M. School

Tri-School made use of their P.M. schools so students could take electives or make up course work after the close of the regular school day. For instance, during the 1991-92 school year, courses in family law and street law attracted several Edison students to the P.M. school. Students from Jamaica High School took P.M. courses in Survival Math and Lotus 1-2-3 at Hillcrest. Some courses usually offered at a home school were purposely offered at a different P.M. school so that students would get used to taking courses at the other locations. Thus, students began expanding their repertory of courses.

Shared Student Activities

The first steps towards shared activities were taken by the student governments, who met jointly to discuss possibilities. As a result of these initial planning sessions, extracurricular clubs and sports facilities at all three schools were opened to all Tri-School members. In addition, life saving and swimming classes at Jamaica were added to Hillcrest's and Edison's curriculum.

Interconnected Libraries

The three schools' libraries were fully automated with a computer network centered on an IBM Model 80 PS/2. Through the LAN system, the library computers were linked to each other and to every classroom computer, giving students enormous access to library collections. The Queens Technical Assistance Center (a Division of the Computer Information Services of the New York

City public schools) provided instruction on networking operations, word processing and database management to librarians, program chairpeople, guidance personnel, and select teachers.

Cable Link-Up

The schools were connected by a Fibre Optical Cable, installed by Time Warner, in order to provide for a future Wide Area Network (WAN) computer between schools. This will unify the schools' telephone system and prepare the way for a planned video distance learning link.

Staff Development

Besides in-house staff development on new courses introduced at individual schools, Tri-School Confederation put together a number of joint training sessions for faculty. These included computer instruction; a grant writing seminar; and workshops for 35 staff in alternative teaching strategies. The workshops included sessions on "Learning Styles" taught by a St. John's University professor, and teaching "Critical Thinking Skills through Law Related Education," given by a professor from Queens College. In addition, faculty from all three schools met frequently to discuss long-range plans.

Ninety students and six staff members from all three schools attended the Law Day Program at St. John's University. This program included a Moot Court that allowed Tri-School students to hear law students and faculty discuss free speech on campuses and other bill of rights issues. The program also gave Tri-School teachers a chance to discuss law cluster programs.

III. PROGRAM IMPLEMENTATION

BUILDING PROGRAM AWARENESS

Internal Promotion Activities

The staff at all three high schools were kept informed of Tri-School developments both as a group and at the individual schools. According to the project director and the principals of the schools, one joint faculty conference was held, followed by periodic updates through joint meetings of the science, math, and technology departments, ad hoc staff meetings, and school newspaper articles.

Students were informed of Tri-School activities by their principal at school assemblies. Flyers describing the program were distributed to students, particularly freshmen and sophomores. In addition, students were informed by their career counselors when they discussed available options.

To further heighten student awareness of the Tri-School program, the students initiated joint activities such as combined Student Council meetings, and a Thanksgiving clothing drive. Students were also planning a dance, sports activities, and speakers on various careers.

Jamaica and Hillcrest High Schools were also involved in initiatives aimed at decreasing racial bias. The schools started a multi-cultural club, a peer mediation program, and a civil liberties program in which volunteer lawyers came to the schools to discuss bias cases. In addition, student leaders from all grades were trained in inter-ethnic relations under the Panel of

Americans program. The schools also began breaking down racial stereotyping by raising awareness in non-minority communities of minority contributions in society. This was especially important at Hillcrest High School where, for several years running, student participants have won first place for Community Service.

External Promotion Activities

External promotion activities were largely spearheaded by the project director. His public relations activities included getting articles about Tri-School Confederation in New York newspapers, direct mail to private and public school students, flyers, brochures (including translations for growing Arabic and Russian communities in Queens), articles in school newspapers, a traveling display, video presentations, and articulation meetings with community school district superintendents, the local community board, high school placement offices, and at the high school fair. Information on the Tri-School programs was also included in the High School Directory.

The three individual schools also held breakfast and evening meetings with feeder schools to discuss the Tri-School programs. Edison's principal noted that, for the first time, some schools in predominately white areas invited representatives of the Tri-School Confederation to speak about their programs.

Problems in Implementing the Program

When interviewed in early spring 1992, the school principals and the program director cited some problems they had in implementing the proposed additions or revisions to the various

Tri-School programs. The most critical problem encountered was time, or the the lack of it. Tri-School did not really get underway until the grant was approved in late summer of 1991, and a project director was hired. Thus, there was no real planning or lead time for staff training, curriculum development, or promoting the program. Moreover, contractual restrictions on purchasing (i.e., bidding and deadlines), as well as an incomplete description of equipment needs, caused further delays in the installation of the laboratories. Without the labs, the schools had few program facilities to show.

One of the principals noted that, in general, students and staff were resistant to change. It was difficult to cut across student rivalries, and it took time and planning for the guidance departments to build networks. Despite this initial reluctance to change, all three school communities began to show a willingness to cooperate and build their programs.

PLANNED PROGRAM CHANGES

When asked what changes they would like to see made in the Tri-School Program, each principal wanted to see less reluctance on the part of students to taking courses in the other two schools. Edison had prompted a change by scheduling one of its popular classes (Robotics) in another school. However, as noted by one principal, for the interschool concept to work, entire student schedules, not just one class, must be coordinated.

The schools are considering having teachers move among the schools. Also, the principals were looking forward to making use

of the fibre optic cable. This would enable them to introduce long distance learning in which a class at one school could be viewed by students at the other schools.

Each of the three principals and the project director expressed hope that the project would continue. Clearly excited over Tri-School and the infinite possibilities it engenders, they were optimistic despite the complexities and time involved in maintaining an interschool network. In anticipation of the present two-year grant running out and the loss of the project director position, one principal proposed that they focus on forming a panel or committee to help keep the three schools together.

IV. STUDENT ATTITUDES TOWARD TRI-SCHOOL

At the end of the fall term 1991, OREA administered a survey to a modified* random sample of students in the ninth through twelfth grades** at Jamaica, Hillcrest, and Edison High Schools. The survey was designed to measure the students' attitudes towards their respective schools and programs. These students were surveyed again at the end of the spring 1992 term to assess whether there had been any changes in their attitudes with the introduction of the Tri-School programs. After matching pre- and post-survey samples, a total of 113 students from Jamaica, 197 students from Hillcrest, and 189 students from Edison were included in the analyses.

ENROLLMENT

The majority of sample students from Hillcrest and Edison indicated that they wanted to enroll in one of the Tri-School programs because they were interested in one or more educational programs. While many sample students at Jamaica mentioned the educational programs as important, the reason most often given by

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*To minimize disruption in the school created by administering the survey, OREA requested that principals survey entire classes of students rather than a true random selection. To ensure a cross-representation of students, including those in the magnet programs, Jamaica High School surveyed its global studies/history classes, Hillcrest surveyed English and history classes, while Edison included English, art, math, electronics, and medical pharmaceutical classes.

**Students in all grades were surveyed since ninth and tenth graders are somewhat restricted by their required courses. Eleventh and twelfth graders have more flexibility and, therefore, can more readily take advantage of the Tri-School features.

students at this school was convenience, i.e., the program was in a zoned school, within walking distance, close to bus and subway, etc. Two-thirds of Hillcrest's students also considered convenience to be relevant, whereas only one in four Edison students gave this as a reason.

About one quarter of the students in each school thought "to be with friends or siblings" an important factor in selecting that school. Similarly, close to a third of the students chose their respective school based on its reputation for being safe and having good teachers. About five percent of the students were attracted to the program because of the opportunity to take classes at the other two schools.

As indicated in Table 1, about 35 percent of the Hillcrest sample were involved in some aspect of the medical program. At Edison (Table 2), the largest percentage of respondents were engineering students (24 percent), followed by an equal representation of pharmaceutical and art students (15 percent each). Only four percent of the sample students were enrolled in the auto body programs. As shown in Table 3, law program students comprised only about nine percent of the sample at Jamaica, however, law was not yet an educational-option program. Jamaica's other educational-option programs such as computer science and finance had a larger percentage of sample students (19 and 12 percent, respectively) enrolled.

When asked who helped them decide on the programs they enrolled in, students from Jamaica were equally influenced by

Table 1

Summary of Programs in which Hillcrest Students Were Enrolled

Program	N	%[a]
Health Careers	35	18
Arts	28	14
Business	25	13
Medical Science/ Pre-Medicine	24	12
Liberal Arts	18	9
Medical Assistant	8	4
Theatre Arts	6	3
Emergency Medical Technician	2	1
Other	18	9
N.A.	36	18

[a]Percentages do not equal 100 due to rounding.

- About one-third of the Hillcrest respondents were enrolled in the medical or health-careers program; of these, 12 percent were in the pre-medicine program.
- Seventeen percent of the sample were enrolled in the arts and theatre arts, 13 percent were enrolled in business, and nine percent were taking liberal arts courses.

Table 2

Summary of Programs in which Edison Students Were Enrolled

Program	N	%[a]
Engineering	46	24
Art	29	15
Pharmaceutical	29	15
Business	18	10
Electrical/ Plumbing	12	6
Auto body Repair/ Service	7	4
Carpentry	5	3
Other	11	6
N.A.	32	18

[a]Percentages do not equal 100 due to rounding.

- About one-fourth of Edison's students who completed the attitudinal survey were enrolled in engineering, and about one out of seven were enrolled in art or in pharmaceutical/medicine.
- Only four percent of the sample were auto body repair students.

Table 3

Summary of Programs in which Jamaica Students Were Enrolled

Program	N	%[a]
Computer Science	21	19
College Discovery and Development	17	15
Regular School Program	15	13
Finance	13	12
Law	10	9
Humanities	8	7
Business	7	6
Other	3	3
N.A.	19	17

[a] Percentages do not equal 100 due to rounding.

- Less than one in ten of the sample were enrolled in the law program.
- The largest portion of the sample (19 percent) were computer science majors. Fifteen percent were in the College Discovery Program, and 12 percent were in Finance.

teachers, guidance counselors, family members, friends, and themselves. Hillcrest and Edison students, on the other hand, said that they relied much less on teachers and guidance counselors, and more often made their own decisions with the help of family and friends. Approximately one-third of all sample students indicated that they were influenced by the publicity of the Tri-School programs.

The above data suggest that a multi-pronged approach to selling Tri-School is the best strategy. The majority of students, at least at Hillcrest and Edison, showed interest in specific programs and relied heavily on themselves to make the decision as to what their school plans would be. When law becomes an educational option at Jamaica during the 1992-93 school year, it is expected that this school will also attract students interested in a specific program. Increased publicity and word-of-mouth can only help.

INTERSCHOOL ACTIVITIES

The number of students taking courses in other schools was relatively small. Since this was the first year of the cross-over program, this outcome was not surprising. The seven percent gain in Edison students taking courses at other schools was largely due to their popular robotics course being moved to Jamaica High School.

Survey responses showed a slight increase in students who were involved in special event or extracurricular activities in the spring over fall term at all three schools. Students at

Jamaica increased their participation by about five percent in areas that addressed racial bias, including the student council, peer mediation, and community service. A similar increase was seen in music and drama. However, students became less active in peer tutoring and mentoring. Students at Hillcrest also became more involved in volunteer work and their student council, though to a lesser degree than Jamaica's students. Both Hillcrest and Edison had significantly more students involved in internships the second semester. For the most part, students participated in their home schools.

P.M. school was attended on average by less than 10 percent of the respondents at any of the three schools. Students who attended a P.M. school often did so for more than one reason. These included the need to make up a course, earn graduation credits, explore new courses, or take enrichment courses. None of the respondents attended P.M. school for access to lab courses, and only one or two went to learn word processing.

WRITING LABS

A major focus of the magnet programs was to improve student writing. Survey responses indicated that close to one quarter of Jamaica and Edison students attended a writing lab during the year, mainly for their English courses. For Edison there was an 11 percent gain in attendees between semesters (21 percent attended in the fall, 32 percent attended in the spring). In contrast, only five percent of Hillcrest's students attended a writing lab in either term.

CAREER INTERESTS

About three-quarters of Hillcrest and Jamaica's students, and two-thirds of Edison's stated that they planned to attend four years of college immediately following high school. Approximately ten percent of sample students anticipated going to college for at least two years.

Students also indicated their career interests. Medicine, or some other health-related field, was high on the list among students in all three high schools. More than 40 percent of students at Hillcrest, and 20 percent of students at Jamaica and Edison expressed interest in a medical-related field. This indicates that more students have an interest than were enrolled in medical courses, and suggests that the medical magnet program could attract students from all three schools if courses were made available through the interschool network.

Students at Jamaica were also interested in business (23 percent), computers (14 percent), psychology (13 percent), and law or law-related fields (10 percent, or about the same number of actual law students in the survey sample). After medicine or health-related fields, Hillcrest students were interested in the arts (21 percent), law or law-related areas (13 percent), or business (13 percent).

The breakdown of interests for Edison students was somewhat more varied than at the other two schools. Besides medicine, Edison students expressed interest in engineering (20 percent), computers (17 percent), the arts (13 percent), business (11

percent), and law or law-related fields (11 percent.) Only about seven percent of the sample indicated they were interested in a pharmaceutical career which is a much smaller percentage than was enrolled in the pharmaceutical program. It is likely, however, that the difference is reflected in the larger number expressing a desire to go into medicine.

When asked how well their program was preparing them for their career plans, about 65 percent of the students from both Edison and Hillcrest marked "considerably" or "fairly well." However, only 45 percent of Jamaica students agreed with this assessment. It appears that many of Jamaica's students, and to a lesser extent Hillcrest's students, were frustrated at not being able to get into the program of their choice. Often the program was not open to freshmen, or juniors could not transfer into it, or zoned students (a relatively large category in both schools) were not eligible for some of the programs. Also, many students might not have had the qualifications for getting into particular programs.

RATING SCHOOL PROGRAMS

Students were asked to indicate their attitude toward aspects of their respective programs using a five-point rating scale of "excellent," "very good," "good," "fair," and "poor." Table 4 lists these areas and gives a summary of the average score for student ratings in each area.

Students from all three schools gave high ratings on the pretest to "student activities offered," and generally indicated

Table 4

Tri-School Confederation 1991-92
Comparison of Average Survey Ratings on Student Attitudes*

Area	Jamaica			Hillcrest			Edison		
	N	Pretest	Posttest	N	Pretest	Posttest	N	Pretest	Posttest
Student activities offered	104	3.93	3.66	192	3.61	3.58	185	3.29	2.78
Opportunity to talk with teachers about programs	109	3.05	3.13	194	2.86	2.88	186	2.75	3.02
Opportunity to talk with guidance counselor about programs	109	3.22	3.06	195	2.89	2.82	188	3.05	3.12
Opportunity to talk with teachers about academic problems	109	3.16	2.95	191	2.80	2.72	187	2.85	2.87
Opportunity to talk with guidance counselors about programs	106	3.11	2.93	190	2.79	2.72	185	3.06	3.03
Opportunity to learn about different career areas	106	3.08	3.19	190	3.06	2.95	187	3.18	3.16
Opportunity for individual instruction	107	2.66	2.63	182	2.58	2.41	178	2.60	2.44
Opportunity to improve writing	106	3.59	3.12	187	2.90	2.69	185	3.22	2.98
Opportunity to take courses in other schools, in other fields of interest	108	3.18	3.21	184	2.97	2.97	180	3.20	3.16
Overall course offerings	106	3.10	3.15	187	3.28	3.17	183	3.24	3.20
Overall classroom instruction	106	2.99	3.13	189	3.02	2.86	182	2.93	2.86
Overall guidance services	104	2.88	3.11	188	2.75	2.68	178	3.01	2.92
Access to labs	105	2.63	2.86	172	2.97	2.77	177	2.46	2.31

(Continued)

*Students used a five-point rating scale to indicate satisfaction with aspects of the program, with five being the highest rating.

Table 4

Tri-School Confederation 1991-92
Comparison of Average Survey Ratings on Student Attitudes*
(Continued)

Area	Jamaica			Hillcrest			Edison		
	N	Pretest	Posttest	N	Pretest	Posttest	N	Pretest	Posttest
Lab equipment/software	103	2.83	2.79	174	3.06	2.85	176	2.59	2.48
Library facilities	102	3.28	3.28	188	3.39	3.29	179	3.06	3.02
Extended day school program	103	2.99	2.98	167	2.95	2.87	174	2.60	2.57
Community service opportunities	100	3.03	3.07	170	2.89	2.85	170	2.65	2.53
Opportunities to collaborate with external resources	107	3.38	3.18	175	3.02	2.95	179	2.75	2.69
School atmosphere	106	3.14	3.02	188	2.82	2.70	181	2.76	2.81
Overall school program	106	3.18	3.41	187	3.09	3.11	184	3.16	3.03
School safety	105	2.86	2.97	189	2.44	2.34	182	3.04	2.86

*Students used a five-point rating scale to indicate satisfaction with aspects of the program, with five being the highest rating.

- Overall, students at Jamaica gave the highest ratings, while Hillcrest students tended to give lower ratings.
- "Student activities offered" received the highest rating from students in all three schools.
- "Opportunity for individual instruction" received the lowest ratings overall.
- "Student safety" received the lowest rating at Hillcrest, and was also a concern at Jamaica.

satisfaction with their "overall school program." Jamaica's students tended to give the highest ratings across variables, while students at Hillcrest tended to give the lowest ratings among the three schools.

Jamaica High School

The areas which received the highest mean ratings by Jamaica's students in the fall term were "student activities offered" (3.93) and "opportunity to improve writing" (3.59). Interestingly, these two categories were also the areas which saw the greatest decrease in students' ratings on the posttest. Raised expectations about the possibility of more extracurricular activities (i.e. sports, clubs, school dance), and disappointment when the new writing lab was not completed probably accounts for these lowered ratings.

Jamaica students gave 12 other variables a mean score above 3.0 on the pretest. Seven of these ("opportunity to talk to teachers about programs," "opportunity to learn about different careers," "opportunity to take courses in other schools," "courses offered overall," "community service opportunities," "library facilities," and "overall school program") either improved slightly or remained relatively unchanged on the posttest rating.

All variables but two with a mean rating below 3.0 on the pretest improved somewhat by the second semester. Only "lab equipment/software" and "opportunities for individual instruction" had relatively unchanged ratings on the posttest.

The areas which showed the most improvement at Jamaica were "overall school program" with a mean improvement of .24, "guidance services overall" and "access to labs" each by a mean improvement of .23.

Hillcrest High School

Hillcrest students were more critical of their school program than Jamaica's students, and also tended to rate the various aspects of the program lower in the second term. Their highest mean rating of 3.61 went to "student activities offered." Two variables, "course offerings overall" and "library facilities," received mean ratings of between 3.25 and 3.50 on the pretest, but lost .10-.11 mean points on the posttest. Five other program aspects ("over-all classroom instruction," "opportunity to learn about different careers," "lab equipment," "opportunities to collaborate with external resources," and "overall school program.") were also rated above 3.0 on the pretest. By the end of the spring term, however, Hillcrest students showed disappointment with "the availability of lab equipment" (-.22), and to a lesser extent, "overall classroom instruction" (-.16). Students' lowest pretest mean ratings were reserved for "school safety" (2.44), followed by "opportunity for individual instruction" (2.58), and "guidance services overall" (2.75), all of which were rated slightly lower on the posttest. "Opportunity to improve writing" and "access to labs," while not receiving the lowest ratings, did decrease by .21 and .20 mean points, respectively, on the posttest.

Edison High School

Students from Edison also rated "student activities offered" highest on the pretest, but showed disenchantment by the spring term, as indicated a .51 drop in mean rating. Ten other variables received pretest ratings above a mean score of 3.0, with only one ("opportunity to improve writing") receiving a significantly lower mean posttest rating (-.24). Of the ten variables rated below 3.0 on the pretest, the lowest score went to "access to labs" (2.46), which dropped another .16 points on the posttest. However, opportunity to talk to teachers about their programs" showed the greatest improvement, up .27 points on the posttest.

Aspects of School Students Liked Most

Students were asked to describe what they liked most about their school experience. Although there was some variation between semesters in the number of students who responded to the question, the overall pattern remained constant. The three most frequent responses from students in all three schools were a specific program or course, their classmates and friends, and the satisfaction they got from learning and doing well. A number of students also felt that their teachers contributed positively to their school experience. About 19 percent of Jamaica's students also stated that they had a positive experience with the student council.

Aspects of School Students Disliked

Students were also asked to describe what they most disliked about school. Close to a third of Hillcrest's students were disturbed by the fighting and theft in their school. While Jamaica and Edison students also mentioned school safety, it seemed less an issue than at Hillcrest. Students at all three schools found fault with some of the teachers. Seventeen percent of Jamaica's students had difficulty handling the workload in the fall term, and about half that number still found it difficult in the second term. About 15 percent of Edison students had a hard time accepting their school's strict regulations, and close to ten percent complained that there were not enough extra-curricular activities, especially for girls.

Changes Students Would Like to See

As can be seen in Table 5, Hillcrest students most frequently mentioned the need for better safety and less fighting at their school. Edison students more often cited wanting to see changes in their school's regulations, and more extracurricular activities. Students at all three schools suggested that some teachers should adopt a better attitude, and that the school needed more and better teachers. Nonetheless, 75 percent of all students said they would recommend their school to other students.

Table 5

Summary of Mean Ratings of Changes Students Would Like to See to Improve their School

Top Changes	Jamaica Pre	Jamaica Post	Hillcrest Pre	Hillcrest Post	Edison Pre	Edison Post
Better teachers/ better teacher attitudes	19	16	16	25	18	19
Cleaner/warmer school	14	11	13	7		19
Improved safety/ less fighting, theft	10	10	54	74	18	13
More extra-curricular activities	9	10	13	10	25	40
More relaxed regulations	7	1	10		19	18
Better program access and advisement	7	10	14	4		
Better food			8	16		
Better course options			15			
More gender balance					14	
Better supplies/ textbooks						13

- By far, stemming the violence at Hillcrest was the number one priority cited by Hillcrest students. Some also wanted to see a change in teachers' attitudes, some new teachers, and better food in the lunchroom.
- Many Jamaica and Edison students would also like to see an improvement in the teachers, and all wanted a cleaner, warmer school.
- A number of Edison students want more extra-curricular activities, and relaxed regulations.

V. STUDENT OUTCOMES

MINORITY GROUP ISOLATION

With effective promotion of their programs, Tri-School Confederation planners had hoped that minority group isolation could be reduced at each of the three Tri-School members by five percent the first year and by an additional three percent the second year. This would have meant that by October 1991*, there would be a change in ratio at Jamaica High School to 90 percent minority and 10 percent white, at Hillcrest to 84 percent minority and 16 percent white, and at Edison to 76 percent minority and 24 percent white. As shown in Table 6, this objective was not met. In fact, the percentage of white students in the population in all three schools declined compared to the previous year.

If ethnic trends of entering ninth graders are examined, however, a different pattern emerges. As shown in Table 7, both Edison High School and Hillcrest High School reported a three percent increase in the percentage of white students enrolled in the ninth grade in October 1991, as compared to the previous year. These two schools have effectively reversed a trend of whites shying away from these schools. In October 1990, the percentage of white ninth graders enrolled in Edison had decreased by 4.9 percent from October 1989. However, as shown

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*Ethnic data were obtained from the New York City Public Schools' "Pupil Ethnic Composition Report" distributed in October of each year.

Table 6

Summary of Baseline and First-Year
Minority Enrollment Statistics by School[a]

School	Minority Enrollment[b]					
	Baseline 1990-91		1st Year Objective 1991-92		1st Year Actual Enrollment	
	N	%	N	%	N	%
Edison	1,625	80.6	-	75.6	1,718	83.2
Hillcrest	2,929	89.2	-	84.2	2,927	88.3
Jamaica	2,397	94.3	-	89.3	2,441	95.4

[a]Ethnic data were obtained from the New York City Public Schools, "Pupil Ethnic Composition Report" distributed in October of each year.

[b]The evaluation objective called for a reduction in minority group isolation (as measured by a reduction in the percentage of minority group students enrolled in the schools) of five percent in the first year.

- None of the schools reduced the percentage of minority group students enrolled by five percent, although Hillcrest did reduce their rate by about one percent.

Table 7

Summary of Baseline and First-Year Enrollment of White Ninth Graders by School[a]

School	Percentage of Ninth Grade White Enrollment[b]					
	1990-91 Baseline		1991-92 First Year		Change	
	N	%	N	%N	%	
Edison	70	14.3	88	17.3	18	+3.0
Hillcrest	44	6.7	82	10.5	38	+3.8
Jamaica	29	5.1	23	4.3	6	-0.8

[a]Ethnic data were obtained from the New York City Public Schools, "Pupil Ethnic Composition Report" distributed in October of each year.

[b]The evaluation objective called for a reduction in minority group isolation (as measured by a reduction in the percentage of minority group students enrolled in the schools) of five percent in the first year.

- Although none of the high schools in the Tri-School Confederation met the stated objective of increasing their white population by 5 percent in 1991 as compared to 1990, Edison and Hillcrest did successfully reduce the percentage of white students leaving their schools. This is not true of Jamaica, however, whose percentage of white students declined by 0.8 percent.

in Table 7, in 1991 the number had increased by 3.0 percent. Similarly, Hillcrest's population of white ninth graders declined by 9.6 percent between 1989 and 1990, but increased by 3.8 percent the following year, the first year of Tri-School.

Jamaica High School, on the other hand, is still not perceived favorably by whites, as evidenced by the declining white enrollment for entering ninth graders over three consecutive years.

STUDENT ACADEMIC ACHIEVEMENT

Program planners stipulated that students in each of the three high schools would show an improvement in academic skills, as measured by a higher percentage of passing rates on New York State Regents Exams* and Regents Competency Tests at the close of the 1991-92 school year, as compared with baseline data for 1990-91. Overall achievement data are presented in Table 8.

As shown in Table 8, students in all three schools easily met the objectives in math and science, with R.C.T. passing rates higher in 1991-92 than in 1990-91. Tables 9, 10, and 11 show that math pass rates were 5.3 percent higher in Hillcrest, 6.7 percent higher at Edison, and 8.6 percent higher at Jamaica in 1991-92. Schools also exceeded their previous performance in science by 4 percent at Jamaica, 3 percent at Edison, and 0.6 percent at Hillcrest.

None of the three schools' students, however, met the

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*Regents scores were not available because of the problems in extracting these data from student test files.

Table 8

Summary of Baseline and First-Year Achievement Outcomes for the Tri-School Confederation

Measures	Baseline 1990-91 Tested	% Passed[a]	First Year 1991-92 Tested	% Passed[a]	% Change
R.C.T. Test					
Reading	1,586	92.5	1,648	91.9	-0.6
Writing	1,583	91.6	1,413	86.1	-5.5
Math	2,195	64.4	2,121	70.2	+5.8
Science	2,032	65.8	1,957	68.4	+2.6

D.R.P.[b] Test	Total Tested	Mean Score	S.D.	Tested	Score	S.D.	Mean Chg.
Reading	2,978	56.6	16.7	3,031	53.5	15.7	-3.1

[a]Percent who passed of those who took the appropriate Regents Competency Test.

[b]Degrees of Reading Power test scores are presented in N.C.E. units. N.C.E.s are normal curve equivalent scores. These scores are similar to percentile ranks, but are based on an equal-interval scale ranging from 1 to 99, with a mean of 50 and a standard deviation of 21. A gain in N.C.E. score from year to year indicates that a student's performance is better than what would be expected by normal growth and chance.

- Tri-School students overall met the program objective of improved academic proficiency in math and science, but not in reading or writing.

Table 9

Summary of Baseline and First-Year Achievement Outcomes for Hillcrest High School

Measures	Baseline 1990-91 Tested	% Passed[a]	First Year 1991-92 Tested	% Passed[a]	% Change
R.C.T. Test					
Reading	644	91.5	620	91.5	0.0
Writing	641	89.2	508	84.8	-4.4
Math	946	52.5	985	57.8	+5.3
Science	746	65.4	736	66.0	+0.6

D.R.P.[b] Test	Total Tested	Mean Score	S.D.	Tested	Score	S.D.	Mean Chg.
Reading	1,078	56.6	17.6	1,127	52.2	16.5	-4.4

[a]Percent who passed of those who took the Regents Competency Test.

[b]Degrees of Reading Power test scores are presented in N.C.E. units. N.C.E.s are normal curve equivalent scores. These scores are similar to percentile ranks, but are based on an equal-interval scale ranging from 1 to 99, with a mean of 50 and a standard deviation of 21. A gain in N.C.E. score from year to year indicates that a student's performance is better than what would be expected by normal growth and chance.

- Hillcrest High School students met the program objective for passing rates in math and science. Their reading and writing skills, however, showed a decrease in proficiency as compared to the previous year.

Table 10

Summary of Baseline and First-Year Achievement Outcomes for Edison High School

Measures	Baseline 1990-91 Tested	% Passed[a]	First Year 1991-92 Tested	% Passed[a]	% Change
R.C.T. Test					
Reading	379	94.7	452	97.6	+2.9
Writing	408	90.0	440	86.8	-3.2
Math	689	73.1	635	79.8	+6.7
Science	636	73.6	624	76.6	+3.0

D.R.P.[b] Test	Total Tested	Mean Score	S.D.	Tested	Score	S.D.	Mean Chg.
Reading	973	57.7	15.0	1,029	55.5	13.9	-2.2

[a]Percent who passed of those who took the Regents Competency Test.

[b]Degrees of Reading Power test scores are presented in N.C.E. units. N.C.E.s are normal curve equivalent scores. These scores are similar to percentile ranks, but are based on an equal-interval scale ranging from 1 to 99, with a mean of 50 and a standard deviation of 21. A gain in N.C.E. score from year to year indicates that a student's performance is better than what would be expected by normal growth and chance.

- Edison High School students improved their passing rates in math and science, and thus met the program objective in those two subjects. Their reading skills showed an improvement as measured by the Regents Competency Test, but not when measured by the D.R.P. test. They did not meet the objective in writing.

Table 11

Summary of Baseline and First-Year Achievement Outcomes for Jamaica High School

Measures	Baseline 1990-91 Tested	% Passed[a]	First Year 1991-92 Tested	% Passed[a]	% Change
R.C.T. Test					
Reading	563	92.2	576	88.0	-4.2
Writing	534	95.7	465	86.7	-9.0
Math	560	73.6	501	82.2	+8.6
Science	650	58.8	597	62.8	+4.0

D.R.P.[b] Test	Total Tested	Mean Score	S.D.	Tested	Score	S.D.	Mean Chg.
Reading	927	55.5	17.3	875	52.6	16.5	-2.9

[a]Percent who passed of those who took the Regents Competency Test.

[b]Degrees of Reading Power test scores are presented in N.C.E. units. N.C.E.s are normal curve equivalent scores. These scores are similar to percentile ranks, but are based on an equal-interval scale ranging from 1 to 99, with a mean of 50 and a standard deviation of 21. A gain in N.C.E. score from year to year indicates that a student's performance is better than what would be expected by normal growth and chance.

- Jamaica High School students exceeded program objectives for improved passing rates in science and especially math, but fell below expectations in reading and writing.

objective in writing. Their passing R.C.T. rates declined by 3.2 percent at Edison, 4.4 percent at Hillcrest, and 9.0 percent at Jamaica. Nor did students show any improvement in reading, although in the case of Edison, the data were inconclusive. Eleventh and twelfth grade Edison students' R.C.T. passing rate in reading improved by 2.9 percent, but average scores on the D.R.P. among ninth and tenth graders declined by a 2.2 N.C.E. units.

STUDENT ATTENDANCE

Another objective of Tri-School was to motivate students to attend school, as measured by an average daily attendance higher in the 1991-92 school year than in the previous year. OREA obtained aggregate attendance data from the Division of High Schools' Office of Data Acquisition, Tabulation, and Analysis (DATA.) According to these data, and as Table 12 indicates, both Hillcrest and Edison High Schools reached their attendance goal. In fact, students across all grades in these two schools improved their attendance, except for Hillcrest ninth graders, whose attendance remained constant at 79.9 percent. By contrast, aggregate attendance for all public schools in Queens went down 2.1 percentage points, from 85.1 percent to 83.0 percent.

Although Jamaica High School did not reach its objective, their attendance, even though down from the previous year by 2.1 percent to 84.5 percent, was higher than either the average of all Queens schools (83.0 percent) or all New York City schools (79.7 percent).

Table 12

Baseline and First-Year Aggregate Attendance Data
Overall and by School

School/ Overall	Aggregate Attendance 1990-91 Baseline N	%	1991-92 First Year N	%	Change
Hillcrest	3,102	82.6	3,106	83.0	+0.4
Edison	1,916	85.4	1,995	87.7	+2.3
Jamaica	2,468	85.7	2,450	84.5	-1.2
Queens High Schools	57,680	85.1	60,190	83.0	-2.1
All High Schools	252,326	79.6	263,832	79.7	0.1

- Both Edison and Hillcrest High Schools met the attendance objective, while Jamaica High School did not.
- The attendance of Tri-School Confederation Schools was better than that of all Queens high schools.

VI. CONCLUSIONS AND RECOMMENDATIONS

The Tri-School Confederation was made up of three Queens schools, Hillcrest, Jamaica, and Thomas A. Edison High Schools. The schools, within five blocks of each other, were funded by the Magnet Schools Assistance Program to share their resources and expand their respective magnet programs, i.e., a law program at Jamaica, the pre-medical and emergency technician programs at Hillcrest, and the pharmaceutical and emergency vehicle maintenance programs at Edison. The goals of the program included improving students' academic achievements and vocational skills, and attracting non-minority students back to public education.

The programs were implemented in the 1991-92 school year and included new courses, particularly lab courses with corresponding written curriculum, that emphasized higher level thinking skills. The much anticipated new laboratories (DNA, forensic, and reading and writing labs) were not completed in time for the fall term because the schools had to wait for the necessary equipment. However, whenever possible classes were held in chemistry or other laboratories.

The program was off to a late start because of a prolonged grant approval process, and once approval came, the need to find a qualified project director. Nonetheless, great efforts were made to recruit students, particularly from among white populations. For example, Tri-School students and staff visited predominately white areas to publicize the magnet programs. In

addition, Arabic and Russian populations were targeted with promotion materials translated into their native languages.

Recruitment efforts resulted in an increase of about three percent in incoming ninth grade non-minority populations at Hillcrest and Edison High Schools. Jamaica High School still showed a downward trend in non-minority populations. However, this trend was expected to reverse once Jamaica's law educational option program was in place, and the school began recruiting outside the district. This expectation is rooted in reality, since educational option programs are one of the major reasons students choose to attend a particular school. In addition, findings from the student attitudinal survey revealed a high interest in the law program.

The schools implemented several other programs to reduce minority group isolation. These included a multicultural club, peer mediation, a civil liberties program in which lawyers came to the schools to discuss bias cases, a Panel of Americans Program in which student leaders were trained in inter-ethnic relations, and increased community service. The interschool courses were also expected to decrease minority group isolation by mixing students from Jamaica and Hillcrest with Edison students.

A major component of the Tri-School concept was an expansion of course offerings through shared resources. This was achieved by integrating courses. For example, Jamaica offered a medical ethics course, and Edison had a pharmaceutical course to interest

medical students at Hillcrest. Hillcrest offered a first responder course which was of interest to students in Edison's emergency vehicle maintenance program. Also, the P.M. schools offered many more courses not normally available to students. An interschool library link-up expanded the opportunities even further, as did shared activities and facilities.

However, as might be expected from a program in operation for less than a year, these efforts met with mixed results. Academically, students in all three schools improved their R.C.T. passing rates in math and science, which bodes well for a new lab curriculum emphasizing these skills. Students did not, however, do well in reading and writing. In fact, when student attitudes were polled on different aspects of their programs, an "opportunity to improve writing skills" was criticized across the board, even at Jamaica where students had previously given it high marks. Improvement is expected once Jamaica's reading and writing labs are fully operational. However, the other schools need to address this issue.

The high percentage of students planning to attend a two-or four-year college was very encouraging, as was the relatively high attendance rate at all three schools. Attendance rates at both Edison and Hillcrest improved from the year before. While the attendance rate at Jamaica decreased, its average daily attendance was, like the other two schools, higher than the overall rate for Queen's schools.

Student ratings of various program aspects were, for the

most part, disappointing, although this varied somewhat by school. It is quite likely these ratings reflected heightened expectations followed by disappointment. The lack of space in some programs, particularly for freshmen and sophomores, was detrimental to full participation. The fact that labs and libraries were not fully operational, and that the course offerings did not reach full potential due to scheduling problems, also affected ratings. Program designers recognized their schools' weaknesses when they designed the Tri-School programs; thus, it is not just "wishful thinking" that ratings will improve significantly once the program is fully operational. Generally, students rated "student activities offered" highest (albeit one of the worst in terms of improvement) and "opportunity for individual instruction" lowest in all three schools.

Students at Jamaica were, by and large, pleased with their program overall and felt it was improving in many areas, especially in classroom instruction, overall guidance services, access to labs, and school safety. A contradiction, however, lies in the guidance ratings; although initially given a good rating, they were nonetheless given poorer marks in the second term. "Opportunity to improve writing" received the lowest improvement rating among the categories even though it was still given a good rating. Again, this probably was more an expression of frustration because the writing lab was not up and running.

Hillcrest students were most pleased with the course

offerings and library, but showed their displeasure in the spring term over the limited access. Besides the lack of "opportunity for individual instruction," students were most critical of the "opportunity to improve their writing" and "access to labs" and "lab equipment", all areas that should change once the programs are fully operational. School atmosphere and safety were also areas of concern to students expressed both in their ratings and in their dislikes of the school. Fighting, thefts, and even one fatality during the 1991-92 school year cast its pall and no doubt affected student ratings in other areas too.

Edison students gave their school highest marks on improvement to the teachers and guidance counselors for talking to them about program options. But they, like the students at the other schools, expressed disappointment in the second term with the access to labs and lab equipment, writing opportunities, and chances for individual instruction. Safety was also a concern for Edison students.

Suggestions for change were limited, but access to more internships and hands-on experience were mentioned, as was more opportunity to take courses in areas of choice. Overall, the majority of students would recommend their schools to other students.

Based on the findings of this evaluation, OREA makes the following recommendations to program planners:

- continue and intensify efforts, using students and site visits to show off the new programs and facilities, to recruit more white students for all programs;

- focus more attention on student' reading and writing opportunities in order to improve these skills and to encourage higher levels of thinking and expression;

- consider intensifying efforts to give students more individual instruction time, perhaps through peer tutoring or mentoring programs;

- develop more ways students, especially in the lower grades, can take courses in their program of interest. This might include mixed courses (such as literature and law,) more interschool offerings, more P.M. courses, and a transportation system between schools; and

- begin development of a mechanism such as a governing committee or permanent program director to ensure continuance and growth of the Tri-School concept of shared resources.